

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-23 are pending in the present application. Claims 1-14 and 16-22 are amended by the present amendment.

In the outstanding Office Action, the specification was objected to; Claims 5 and 18-21 were objected to; Claims 1, 2, 5, 6, 8, 10-13, and 18-21 were rejected under 35 U.S.C. § 112, first paragraph; Claims 1, 2, 5, 6, 8, 10-13, and 18-21 were rejected under 35 U.S.C. § 112, second paragraph; Claims 1, 8, 10, 12, 13, 18, 20, and 21 were rejected under 35 U.S.C. § 102(b) as anticipated by Cluzeau (French Patent Application No. FR 2738669); Claims 2, 5, and 6 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cluzeau in view of Fabian (German Patent No. DE 3049153 A1); and Claims 11 and 19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cluzeau in view of Kassing (German Patent DE 3049153 A1).

First, Applicant notes an Information Disclosure Statement was filed on June 22, 2004, which at this time has not been indicated as considered. Thus, Applicant respectfully requests the Examiner to consider and initial the references listed on the filed PTO-1449 form and to return the same to Applicant.

Regarding the objection to the specification, Applicant notes that the references (Lanza (U.S. Patent No. 6,205,195 B1) and Fenimore et al. (U.S. Patent No. 4,209,780, herein "Fenimore")) filed with this amendment are in the field of coded aperture imaging and define a "coded mask," a term considered by the outstanding Office Action as not being provided with "clear bounds."¹

¹ Outstanding Office Action, page 3, second full paragraph.

The outstanding Office Action also considers that the term “coded mask” is indefinite. However, as noted either in Lanza or in Fenimore, a coded mask is used in astrophysics, medical field, and nuclear interrogation and for example, Lanza discloses at column 10, line 11, line 32, lines 46-47, and line 50, column 15, line 40, and column 16, line 6 and also shows in Figures 1, 2, 6, and 7 a random or pseudo-random patterns applied to a coded mask. Further, Fenimore shows in Figures 1, 3 and 4 pinholes arranged randomly and discloses at column 1, line 17, and column 6, lines 24-25 randomly arranged pinholes for a coated aperture.

Thus, Applicant respectfully submits that a coded mask would be understood by one of ordinary skill in the art to be consistent with the disclosure of the specification at page 9, lines 16-23 and not as interpreted by the outstanding Office Action, i.e., based on a dictionary definition out of the context of coded masks.

Further, it is noted that neither Lanza nor Fenimore teaches or suggests the claimed subject matter because these references teach a conventional coded mask in which holes are provided in a random manner and not a coded mask with neutron emissive parts.

Accordingly, it is respectfully submitted that the rejections under 35 U.S.C. § 112, first and second paragraphs to the specification are overcome and Claims 1-23 patentably distinguish over Lanza and Fenimore.

Regarding the objection to Claim 5, Claim 5 has been amended to depend only from Claim 2 and not from Claim 4 as suggested by the outstanding Office Action. Regarding the objection to Claims 18-21, Applicant respectfully submits that Claim 16 was not elected in error and thus, it is respectfully requested that Claim 16 be considered together with Claims 1, 2, 5, 6, 8, 10-13, and 18-21 as elected. It is noted that Claim 16 reads on species I identified by the previous Office Action. Accordingly, it is respectfully submitted this objection be withdrawn.

Regarding the rejections of Claims 1, 2, 5, 6, 8-10, 13, and 18-21 under 35 U.S.C. § 112, first and second paragraphs, the term “coded mask” recited by Claim 1 was discussed above with respect to the specification and it is believed that the term is not indefinite and it is sufficiently described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor had the possession of the claimed invention at the time the invention was filed. Regarding the objection to the term “of the type,” this term has been deleted from independent Claim 1 and Claim 6 has been amended to correct the antecedent basis. Accordingly, it is respectfully requested these rejections be withdrawn.

Regarding the rejection of Claims 1, 8, 10, 12, 13, 18, 20, and 21 under 35 U.S.C. § 102(b) as anticipated by Cluzeau, independent Claim 1 has been amended to more clearly recite that only the neutral emissive parts emit neutrons during a bombardment with particles. The claim amendments find support in Figure 2A and in the specification at page 10, lines 12-18. No new matter has been added.

Briefly recapitulating, amended Claim 1 is directed to a target that emits neutrons when bombarded with particles. The target includes neutron emissive parts and neutron non-emissive parts which are juxtaposed. Only the neutron emissive parts emit neutrons during a bombardment with particles and the emissive and non-emissive parts are arranged so as to form a pattern as a coded mask.

In a non-limiting example, Figure 2A shows the target 10 having the emissive parts 11 and the non-emissive parts 12, the emissive and non-emissive parts being arranged to form the coded mask.

Turning to the applied art, Cluzeau discloses in a neutron generator tube, a target 29, a coded mask 36, and an alpha particle detector 35. The target 29 is homogeneous. The coded mask 36 is located between the target 29 and the alpha particle detector 35. The coded mask is located on the path of the alpha particles emitted by the target 29 and directed towards the

alpha particle detector 35. The coded mask 36 is intended to block partially the alpha particles (for example see page 11, line 35 of Cluzeau) and not the emission of neutrons. The target of Cluzeau does not include neutron emissive parts and neutron non-emissive parts as recited by amended Claim 1. In fact, Cluzeau discloses a target that is bombarded with particles and the neutron emission is homogeneous on the full surface of the target as disclosed for example at page 12, lines 26-27 in Cluzeau. On the contrary, Claim 1 recites that only emissive parts emit neutrons.

Accordingly, it is respectfully submitted that independent Claim 1 and each of the claims depending therefrom patentably distinguish over Cluzeau.

Further, the outstanding Office Action refers specifically to Cluzeau by page and line numbers. However, it is noted that Cluzeau is not in English language and also the paragraphs of Cluzeau corresponding to the specific references of the outstanding Office Action are silent with regard to the asserted mask 65. Accordingly, Applicant respectfully requests that the next Office Action provides an English translation of Cluzeau (see MPEP § 706.92 II) and specific references to the mask 65.

Regarding the remaining rejections of the dependent claims over various combinations of Cluzeau and either Fabian or Kassing, the applied art has been considered but does not cure the deficiencies of Cluzeau discussed above. Because Claims 2, 5, 6, 11, and 19 depend from independent Claim 1, it is believed that dependent Claims 2, 5, 6, 11, and 19 are also allowable.

With regard to the references provided with the enclosed IDS, Lanza discloses a coded aperture imaging apparatus. A beam of fast neutrons 14 emitted by a neutron source 12 interacts with the content of an object 24 to inspect and induce gamma rays 26. The neutron beam is homogeneous, but it is not coded. The gamma rays 26 are detected by a detector 18. A coded mask 16 is interposed between the object 24 and the detector 18.

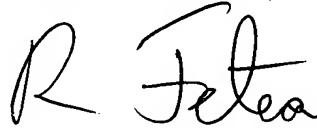
However, Lanza and Fenimore (which is similar to Lanza) do not teach or suggest a target having juxtaposed neutron emissive parts and neutron non-emissive parts to form a pattern as a coded mask.

Accordingly, it is respectfully submitted that the claims presented for examination patentably distinguish over the applied art and the disclosed art.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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